COMPARISON OF CRITICAL ASPECTS

Ameren Missouri and KEMA DSM Potential Studies

Nov 4, 2010

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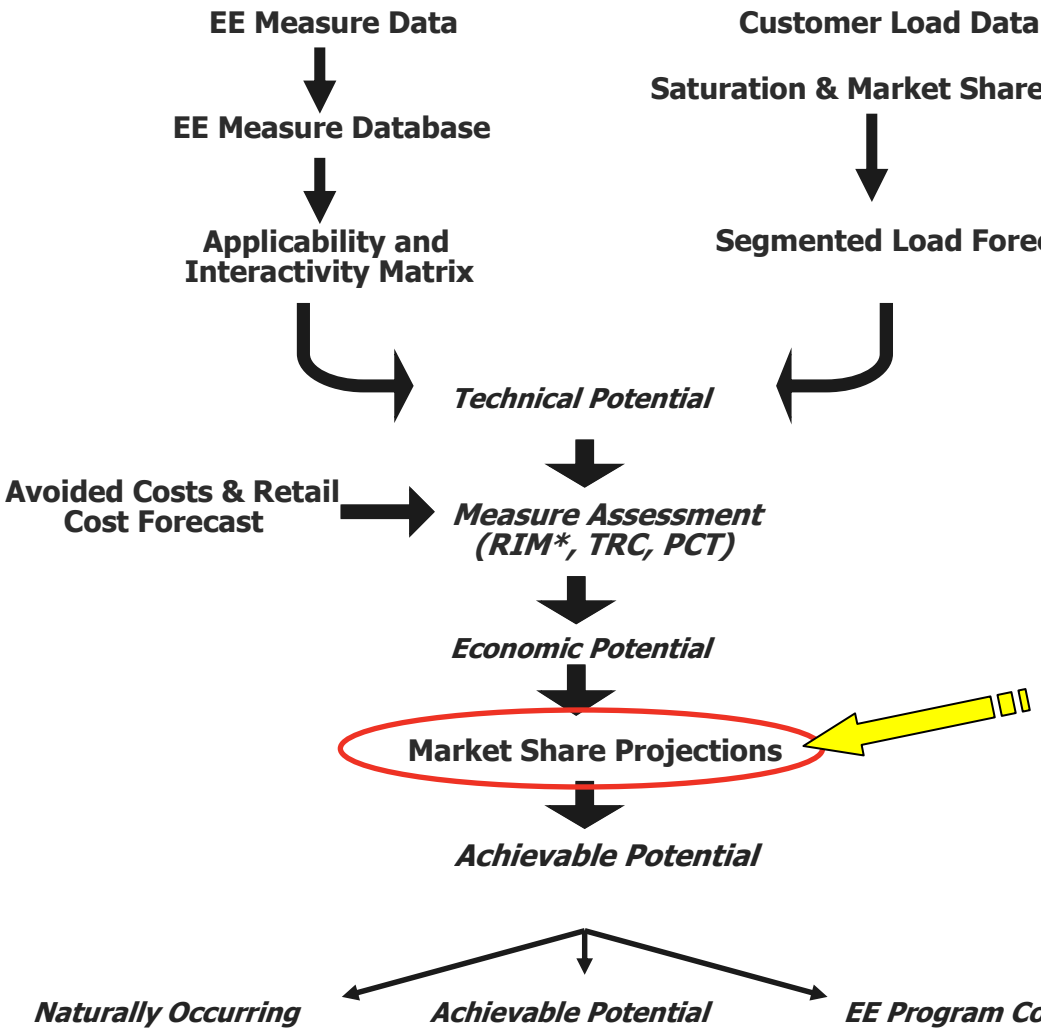
1. TRANSLATING ECONOMIC TO ACHIEVABLE POTENTIAL



Entire study hinges on this market penetration factor.

Achievable Potential = (% Market Penetration) * Economic Potential

1. TRANSLATING ECONOMIC TO ACHIEVABLE POTENTIAL

AMEREN MISSOURI APPROACH

Stratified Random Sample of 4000+ Ameren Missouri customers

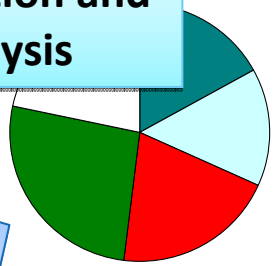
Battery of probing attitudinal survey questions

Major Themes:

- What energy efficiency efforts have you taken in the past?
- How do you think about the value of energy efficiency?
- How likely would you be to take new efficiency actions?

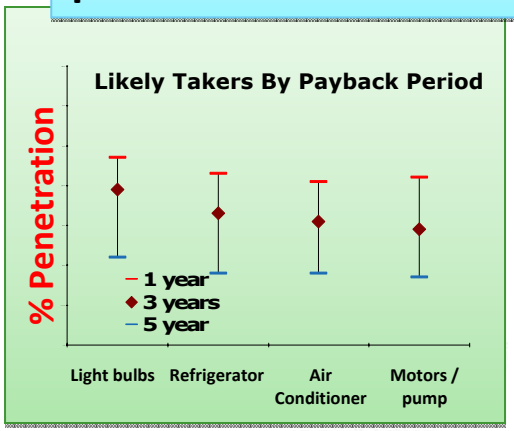
Data processing and analysis

Segmentation and factor analysis



- EE Actives
- EE Enthusiasts
- Green but EE Wary
- Cost Focused
- Uninterested

Characterization of likely takers & DSM penetration



**Figures are illustrative*

1. TRANSLATING ECONOMIC TO ACHIEVABLE POTENTIAL

KEMA APPROACH

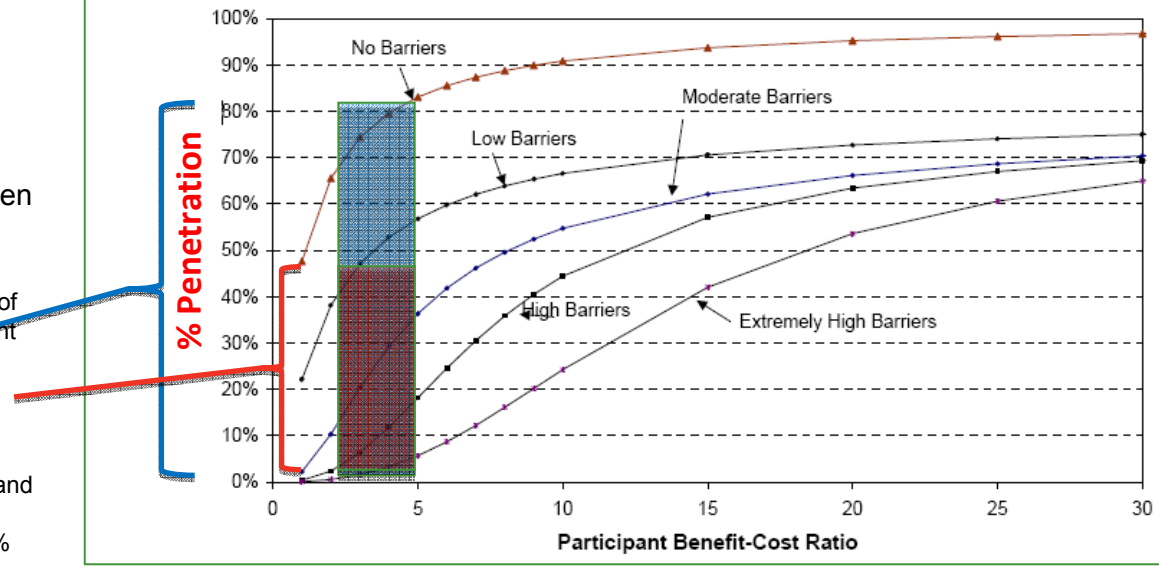
- KEMA proposes to use the curves shown to develop penetration rates.
- **Q: Where do these curves come from?**
- **Q: Will one of these curves be chosen for all measures in Missouri?**
- Illustrated by shaded areas is an imperfect attempt to compare the KEMA methodology with the Ameren Missouri methodology:
  - **KEMA** shows a very broad range of possible penetrations for participant B/C ratios of 1.0 through 5.0: approximately 2% through 82%.
  - **Ameren Missouri** concluded that simple paybacks between 1-year and 5-years correspond to a range of customer participation between 3% and 47%.
  - This comparison was chosen assuming that 1- to 5-year paybacks roughly correspond to participant B/C ratios of 1.0 to 5.0. This is a rough estimate.

KEMA

Appendices

Figure 7-3

Primary Measure Implementation Curves Used in Adoption Model



Choosing the wrong penetration curve could drastically alter the study results.

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2. MEASURE LIFETIMES

- KEMA appears to assume that every measure is normalized to a 20 year lifetime.
- How are costs treated during this normalization?
- Is a new measure installed “for free” as a result of market transformation, or are costs incurred and discounted to a present value for every individual lifetime expiration?
- Ameren Missouri assumed that every measure influenced by programs was counted once for measure costs in the first year and once for energy savings in only the years of its effective useful life. After this, it disappears and is expired.

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3. AVOIDED COSTS

- The avoided costs which KEMA provided in the file "SampleEconomicFile.xls" reflected considerably higher values than Ameren Missouri market information, particularly in the Avoided Electric Capacity cost
- Values in KEMA file show:
  - $0.05/kWh in 2010
  - $113/kW in 2010
  - Retail rates remaining relatively flat throughout the time horizon
- Higher avoided cost streams would result in higher TRCs, greater numbers of measures passing the economic screen, and higher economic potential.

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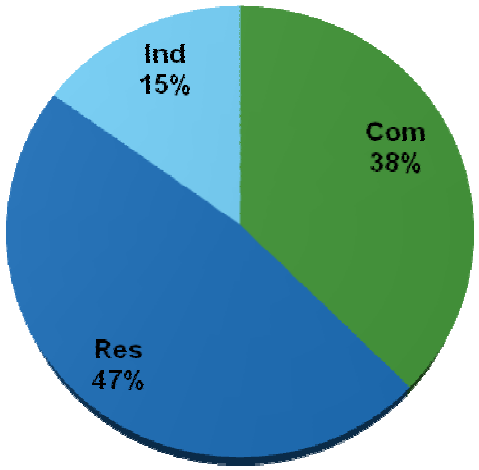
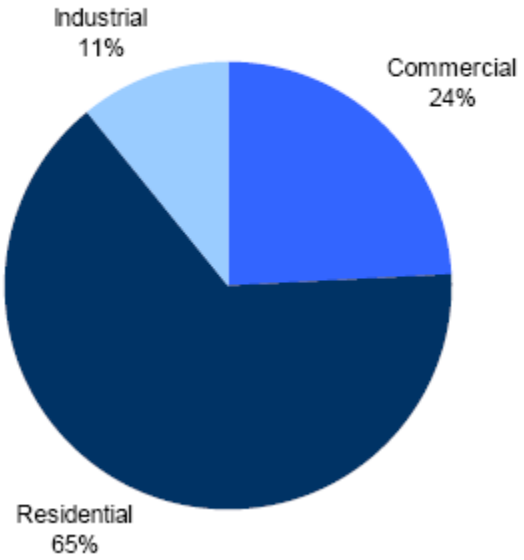
4. PEAK DEMAND CONTRIBUTIONS

Class Make-up of July 2010 Ameren Missouri Peak Load



From KEMA document (10/27/2010)

Figure 5 - Contribution to Peak Demand by Sector



47% Residential vs. 65% Residential

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OTHER ASPECTS

- Will the achievable potentials have cost estimates?
- In KEMA's estimates of achievable potential, they say they will gather utility program costs. Where and how will they obtain that information?
- What is time horizon of study? 2010-2030?
- How will KEMA account for muni and coop data? Will they extrapolate from IOU data? Make any particular adjustments?
  - Participation rates
  - Equipment saturations
  - Building type mix
  - Energy intensities
  - Baseline forecasts

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